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ABSTRACT

The influence that pharmacists can have in solving the problem of patients who either do not take their medication or take it improperly is discussed. The incidence of patient noncompliance in the treatment regimen is considered, based on research findings. It appears that most noncompliance is rooted in either the patient's inability to understand and retain instructions given, and/or the inability of health professionals to properly instruct the patient. Research indicates that many patients are not able to comprehend the directions supplied on nonprescription drug containers. Some patients think they know more about their medications or therapy then they actually do. Many physicians tend to underestimate the knowledge of their patients and are therefore less likely to discuss pertinent disease and treatment concerns. Solutions rest on the need for increased communication between health practitioners and patients. There are advantages and disadvantages of having pharmacists provide drug counseling/consultation to patients to alleviate the problem of patient noncompliance. The purpose of consultation is to educate patients. The success of such counseling is affected by the acceptance of this concept by both physicians and patients. (SW)

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# THE ROLE OF PHARMACIST CONSULTATIONS AS A PARTIAL SOLUTION TO PATIENT NONCOMPLIANCE

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# THE ROLE OF PHARMACIST CONSULTATIONS AS A PARTIAL SOLUTION TO PATIENT NONCOMPLIANCE

THE SCOPE OF THE NONCOMPLIANCE PROBLEM Compliance, as used in the practice of health care, may be viewed as a patient's drug taking habits. Thus, a patient who is considered to be a good complier may be expected to follow closely the therapeutic regimen given to him by his physician. Conversely, the patient who is considered to be a bad complier may be expected to follow poorly the regimen given to him. Generally, the term noncompliance is applied to poor compliance, and a patient who poorly follows his therapeutic regimen is referred to as a noncomplier. Unfortunately, in this country there would appear to be a significant incidence of noncompliance. The implication of compliance with regard to therapeutic success becomes more clear when we realize that, for many disease states, choosing a proper medication or regimen of therapy may not be as important to therapeutic success as adherence to the regimen by the patient.[1] This correctly implies that the patient must decide for himself to adhere to an assigned regimen,[2] which he may or may not do depending upon his compliance habits. Empirically, it has become clear that physicians can expect a significant percentage of their patients to comply poorly to their assigned therapies,[3] and furthermore, physicians will not likely be able to tell which of their patients will or will not comply.[4]

The Incidence of Noncompliance. The incidence of noncompliance has been the subject of numerous studies and the results tend to vary widely. Reports of noncompliance from 4% to 100% have been reported.[5] Incidences of 25% to 59% have been reported by authors who have reviewed the literature involving studies on self-medicating, ambulatory patients.[6] In one study in which patients being treated for throat infections were interviewed in their homes, it was found that approximately 34% of these patients failed to take their medications as instructed.[7]

In another study involving diabetic patients, 20% of the involved patients were found to incorrectly measure their insulin dose.[8] Studies of hypertensive patients seem to yield

high noncompliance statistics. One study done revealed an incidence of 79% noncompliance,[9] while another study found 85% noncompliance.[10] Studies have shown that noncompliance not only contricutes to poor therapeutic success, but also can be associated with related health problems. For example, in one study it was found that patients who complied with their prescribed regimen incurred only one-fifth of the hospitalizations seen to befall noncompliers,[11] while another study indicated that by mususing their medications, 35% of patients may be exposing themselves to serious health threats. Furthermore, it would appear that 3% to 5% of hospital admissions may be due to drug toxicity.[12] Although these figures substantiate the seriousness of the compliance problem, it should be pointed out that comparing noncompliance study results carries with it a certain degree of risk to absolute authenticity. This is partly due to the fact that there is no widely accepted definition of noncompliance among researchers and practitioners. Also, the methods employed to assay noncompliance will vary widely.[13]

Some Proposed Reasons for Noncompliance. Just as there has been a great deal of literature devoted to the incidence of noncompliance, so too has there been much said in the literature about its causes. An underlying theme of much of the literature would seem to involve communication between a patient and his physician.[14]

Increased communication could be expected to abate (at least to some extent) misconceptions and/or ignorance on the part of the patient with regard to his medication and therapy, to further the relationship between the patient and the health professional, and to reinforce the patient's conceptions that support continued compliance. Basically, it would seem that the basis for most noncompliance is rooted in either the patient's ability to understand and retain instructions given to him, and/or the ability of health professionals to supply appropriate instructions that the patient can understand and retain. For example, in one study the ability to comprehend

the instructions supplied on non-prescription drugs was evaluated using a reading formula which took into account the difficulty level of individual words and sentence length. The results of the study indicated that many patients are not able to comprehend the directions supplied to them on non-prescription drug containers.[15] Furthermore, if health professionals fail to take the time to explain the various facets of therapy, the patient may make up his own explanations to fill in the gaps.[16] In either case, the patient may be left with misconceptions about the medications purchased or the directions that are supposed to be followed. Such misconceptions may lead to noncompliance.

Another aspect involving the patient involves those patients who <u>think</u> they know more about their medications or therapy than they actually do. There are two interesting considerations involving this concept when considering compliance. To begin with, there is always the possibility that although the patient indicates knowledge about his therapy, he may still harbor many misconceptions.[17] Secondly, in a study involving sixty elderly patients, it was found that compliance errors tended to increase in patients who attempted to identify their medication by name.[18] This would seem to imply that patients who think that they know sufficient information about their medications may not pay as close attention to instructions given to them by health professionals, or perhaps, the patient may ignore parts of information provided, if such information does not conform with what the patient believes or wants to believe.

Health professionals must be willing to accept some of the blame for patient noncompliance. In the case of the physician there have been a number of studies implicating problems. In one study involving 214 patients and 89 physicians, it was found that physicians have a propensity to underestimate the knowledge of their patients. The outcome of this underestimation is that these physicians are less likely to discuss pertinent disease state and therapeutic considerations.

Furthermore, the study revealed that the patients in this study knew little about their own disease state.[19]

With regard to the pharmacist, he has allowed himself to be cast into a "count and pour" image. Many pharmacists are comfortable with this image in that it would seem to excuse them from their responsibility of patient counseling. The unfortunate result of this is that the public has, over the years, assumed that the pharmacist's only responsibility is to prepare their prescription, but not to counsel them about it.[20] Thus, the American patient over the years has managed to leave the office of his physician with a plethora of misunderstandings, only to proceed to the pharmacy where he receives even less information.

Another example of how physicians have contributed to the noncompliance problem was made evident by a study done at the Ohio State University Hospitals. This study involved 1,028 prescriptions which were analyzed to ascertain if "patients could safely and effectively self-administer medications by following directions as they were stated by the physician." The results of the study indicated that approximately 47% of the prescriptions analyzed had sufficient instructions for the patient to safely and effectively self-administer his medications with no further instructions from the pharmacist. In the remaining 53%, the instructions provided by the physician were insufficient to permit safe and effective self-medication by the patient.[21]

A final situation which has been found to contribute to patient noncompliance resides in the medications themselves. Many medications require some degree of time before they exert their actions, and/or they may have some unpleasant side effects. If either of these situations is not explained to the patient, they may become discouraged with their therapy and terminate it prematurely.[22]

Proposed Solutions of the Noncompliance Problem. The noncompliance problem would seem to be far too complex to expect a single, ideal solution. Rather, the literature

would seem to indicate that there are several plausible approaches to the solution of the problem. However, a significant number of the approaches seem to have a common element--increased communication between health practitioners and patients. In fact, some authors feel that this element possibly represents the key to the solution of the problem.[23] Other approaches include increasing patient knowledge,[24] changing patient belief systems,[25] emotional appeals, social supports, and exposing the patient to other sources of information.[27] However, the role of increased practitioner communication with patients can easily be seen within the realm of many of these approaches.

From the preceding discourse it becomes apparent that the problem is not a simple one, nor would there appear to be any single, ideal solution. Rather, the total solution to the problem will likely be the result of a cooperative effort on the part of all health professionals. The concept of a combined health professional effort may appear to be idealistic, and indeed will require some co-ordination on the part of the professions. Yet, in the meantime there is much the individual professions can do independently to help abate this seemingly persistent problem. Our purpose here will be to consider the potential role of the pharmacist based upon studies that have appeared in the professional literature in the past.

## THE ROLE OF THE PHARMACIST

The Role of the Pharmacist--The Positive Side. The positive potential via patient consultation of pharmacists has been substantiated by both opinions and studies. One of the most significant arguments for pharmacist conuseling is a logical outcome of the realization that the pharmacist is the last health professional seen by the patient before initiation of therapy.[28,29] This provides the pharmacist with the opportunity with a unique opportunity to instruct

or reinforce instructions to the patient with regard to proper drug utilization. It has further been pointed out that patients often return to the pharmacy for refills without having returned to their physicians, which provides the pharmacist with the opportunity to monitor patient compliance trends.[30] Furthermore, by virtue of this characteristic of patient behavior, it has been pointed out that the pharmacist is probably the health professional seen most often by the majority of patients, which magnifies the potential of the pharmacist in compliance monitoring and patient counseling.[31]

Many studies have been done with regard tothe role of the pharmacist as a consultant and the effects that such consultations have on compliance habits of the consumers. Studies have shown, for example, that many patients would like to speak with a pharmacist on more occassions than they are currently afforded. Furthermore, many patients have been found to switch to pharmacies where they are allowed more opportunity to speak with the pharmacists.[32] In one study involving 266 nonprescription drug consultations at two different pharmacies, it was found that only 9.2% of the patients refused to follow the adivce given to them by the consulting pharmacist.[33] The results of studies such as this point out the importance and practicality of pharmacist consultations.[34] Other studies have been conducted to determine more precisely the effects of pharmacy consults on patient compliance. In a twelve month study involving 112 patients seen by pharmacists in a general medical unit, it was found that as the number of pharmacist consultations with patients increased, patient compliance increased, the number of non-prescription medications being used by patients decreased, and many types of other drug related problems also decreased.[35] In another study in which patients were given multiple, consecutive consultations, it was found that 83% of the pharmacist-counseled patients were compliant to their therapeutic regimen, while only 21% of the patients in the non-counseled group were found to be compliant.[36] In still another study involving 62

patients who had received verbal, written or verbal/written instructions when they received their medications, it was found that the highest compliance rates were seen in those patients receiving both verbal and written instructions. Next highest compliance was seen in patients given verbal reviews, while third highest was seen in patients who received no instructions whatsoever.[37]

A number of other studies have been conducted to ascertain the opinions of both physicians and consumers with regard to pharmacists as drug counselors, since it would be logical to assume that the success of such counseling will be affected to some degree by the acceptance of this concept by both physicians and patients. In one study involving questionnaires from 238 consumers and 33 physicians, it was found that both groups rated pharmacist counseling activities as being important functions of the practicing pharmacist with regard to both prescription and nonprescription drugs.[38] In another study in which 491 physicians were surveyed with regard to their opinions of pharmacists as drug counselors, if was found that many patients, especially the elderly, poorly educated, and the young could be helped considerably in their proper drug utilization by further instructions by the dispensing pharmacist (in the opinion of the physicians surveyed).[39]

Finally, in another type of study involving 106 patients, it was found that "communication, patient understanding and compliance can be enhanced by a well-constructed educational program administered in a setting that offers some measure of privacy for personal interaction."[40]

The Role of the Pharmacist--The Negative Aspects. Just as the positive aspects of pharmacist counseling have appeared in the literature, so have the negative aspects. It has been pointed out, for example, that many patients may become apprehensive about their therapy if given too much information, which may decrease compliance.[41] This concept was supported by a study involving 491 physicians, who were surveyed concerning

their opinions of pharmacists as drug consultants. Several of the responding physicians expressed concern over patient apprehension as a result of receiving too much information.[42] Other authors have also pointed out that a single drug consultation with a patient by the dispensing pharmacist may not be sufficient interaction to stimulate better compliance habits.[43] Furthermore, merely presenting a patient with pertinent drug information does not insure that he will comply with the indicated therapy.[44] This concept has been substantiated in a number of studies. In one study involving 53 patients, who were divided into consult and nonconsult groups, it was found that the group receiving a pharmacist consultation showed no significantly higher compliance rate than the group which received no consultation.[45] In a similar study involving 230 Canadian steelworkers with hypertension, it was found that these workers exhibited no significant increase in compliance when supplied with health information about their disease and supplied with the convenience of a physician's follow-up care at work.[46] Another point that has been made concerns those patients who resent being given medical advice,[47] and especially from a pharmacist, whom patients fail to view as a drug counselor.[48] With either of these latter factors at play, noncompliance may be significant since the patient may disregard a significant amount of the information presented to him, or he may only accept that information which he wants to hear. Physician surveys have also revealed that many doctors see no need for further consultation by pharmacists, since they are already counseling their patients in their offices when they come in for treatment.[49]

Finally, in a survey involving both consumers and pharmacists, it was found that both groups ranked consultation-type services rather low on a relative scale of importance.[50]

CONCLUSIONS

From the literature there would not appear to be any difficulty in justifying the existence of a noncompliance problem (even though I can envision lively discussions regarding the extent to which the problem exists). It would probably be safe to say that there is a great deal of variation in the extent of noncompliance depending upon how you define the term. Nonetheless, as pharmacists who are concerned with therapeutic efficacy in the patients we see, we must take a somewhat idealistic stand, and attempt to isolate and eliminate as much noncompliance as possible.

This requires us to look at the potential causes and solutions that have been proposed. From the literature cited we see that numerous causes and solutions have been proposed, and thus, the problem appears to be quite complex. Even so, a significant portion of the proposed solutions conceivably involve some form of consultation techniques.

Thus, we seem to find ourselves asking not so much whether or not we should counsel, but rather, how do we go about it? Notice that many of the studies that favor patient consultation, involve consultation proceedures and techniques that go beyond the typical retail situation. That is, multiple, consecutive counseling episodes, the use of take-home instructions, and the use of appropriate language on labels are all examples of counseling techniques that reinforce patient knowledge and understanding. The proposed use of private counseling areas has potentially great value by creating advantageous learning environments in which the patient can feel more free to discuss problems and ask questions.

On the other hand, we find studies that don't particularly favor consultation as a means of improving compliance. Studies involving actual patient consultation encounters are often single-consult studies. This is perhaps more realistic to what is typically found in most retail and clinical situations. In such cases the patient is only counseled on a

single occasion by the physician and/or pharmacist. The information supplied by the pharmacist may or may not reinforce that supplied by the physician, and since there are no follow-up consultations or take-home literature, no additional reinforcement occurs. In such situations it is easy to understand why patients fail to comply. We often overwhelm them with information, and then fail to reinforce important information. At the other extreme, we may fail to give them enough information. In either case, it is easy to understand why such studies are relatively nonsupportive of counseling.

It is also noteworthy to point out that some of the negative studies were basically opinion surveys. To be sure, if consultation proves to be a valuable tool in the compliance problem, we must attain the attitudinal support of both health professionals and consumers. If physicians and consumers fail to view pharmacists as effective counselors, or if they fail to appreciate the value of counseling, they are not as likely to utilize or profit from consultation services. Furthermore, if pharmacists fail to appreciate the potential of counseling, they are not likely to offer it as a service. Thus, the success of consultation may largely be affected by attitudes of acceptance.

There is another observation to be drawn from the attitudinal aspect. Many health professionals and consumers tend to view the potential of consultation and the potential of pharmacists to counsel as a single entity. Since pharmacists are often viewed in the "count and pour" image, the potential of counseling is often questioned merely because the pharmacist is not seen as a counselor. Even though the success of a pharmacist consultation program will depend heavily on the effectiveness of the pharmacist/counselor, the two entities are not absolutely interdependent. It becomes necessary for us to first consider the success potential of counseling in the abatement of noncompliance, then to apply this knowledge to expanded roles for pharmacists.

Finally, much of the cons associated with counseling as a partial solution to noncompliance seem to be centered in what I would consider a failure to appreciate the purpose of consultation--to educate patients. I suspect that if consultation is approached as an educational device, and conducted according to established educational (as well as counseling) principles, that many objections can be effectively allayed. For example, it was pointed out that many people object being told what to do...but they rarely resent educational opportunities. Patients may not pay attention to information when they feel as if they are already knowledgeable...yet experts in the field of adult education effectively handle this type of situation on a routine basis. Physicians indicate a fear that patients may be unnecessarily alarmed if they are presented with too much information...yet according to accepted principles of education, it is not the quantity of information that we should concern ourselves with, but rather the quality and order of presentation. Treating consultation as an educational endeavor, we not only gain insight about dealing with adults, but also how to organize and present health information in a meaningful manner.

Thus, we would appear to have returned to a point made earlier...the question is not <u>whether</u> or not to counsel, but <u>how</u> to counsel. I think the literature supports the concept of counseling as a partial solution to patient noncompliance, but it also challenges to us to become cognizant of effective counseling techniques.

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